

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 95 - 225

NPDES NO. CA0004880

**PACIFIC GAS AND ELECTRIC COMPANY
PITTSBURG POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereafter Board) finds that:

General Findings

1. Pacific Gas and Electric Company, Pittsburg Power Plant, (hereinafter discharger) submitted a Report of Waste Discharge, dated September 30, 1994 to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger has a capacity to generate approximately 2,060 Megawatt (MW) from the seven steam-electric generating units and currently discharges wastewater from the Pittsburg steam generating electric power plant into Suisun Bay, a water of the United States (Latitude 38 02'10" Longitude 121 53'50"). The discharger also discharges from the Contra Costa Power Plant five miles east. This discharge is regulated under a similar but separate Order (NPDES No. CA0004862) issued by the Central Valley Regional Water Quality Control Board.
3. The report of waste discharge and additional information describes the existing discharges as follows:

<u>Discharge Outfall</u>	<u>Contributory Waste Stream</u>	<u>Annual Average Flow</u> (gpd)
001	Once-Through Cooling	1.0 billion
001A	Intake Screen Wash	150,000
001B	Clarifier and Filter Blowdown	120,000
	Reverse Osmosis Building Drains	4,000
001C	Reverse Osmosis Reject	280,000
001D	Boiler 1-6 Blowdown	150,000
001E	Ion Exchange Regeneration Waste	70,000
001F	Fireside/Air Preheater Washes (Boilers 1-7)	2,700

<u>Discharge Outfall</u>	<u>Contributory Waste Stream</u>	<u>Annual Average Flow</u> (gpd)
001G	Fuel Oil Tanks 1-7 Storm Water Runoff	24,000
	Building Drains Unit 1-7	280,000
	Yard Drains - Storm Water Runoff	5,600
	Fuel Oil Tanks 8-14 Yard Drains - Storm Water Runoff	50,000
001H	Cooling Tower Blowdown (Unit 7)	17,000,000
001I	Chemical Cleaning (Boilers 1-7)	2,700
002	Yard Drains - Storm Water Runoff	5,600
003	Fuel Oil Tanks 8-14 Yard Drains - Storm Water Runoff	48,000
004	Fuel Oil Tank 16 Yard Drains - Storm Water Runoff	5,000
005	Yard Drains - Storm Water Runoff	200
006	Cooling Tower Blowdown (Unit 7)(alt.)	17,000,000

The 001 discharge structure is located on the southern shore of Suisun Bay approximately twelve hundred feet westerly of New York Point.

4. The discharger pumps condenser cooling water from two shoreline intakes structures located along the south shore of Suisun Bay approximately two thousand feet westerly of New York Point. Cooling water drawn from both intakes passes through separate bar racks and screens.
5. The discharger cools the condensers by pumping water from the intakes through the condensers to the point of discharge. The design capacities of the condensers and the variable speed pumps are as follows:

<u>Units</u>	<u>Design Condenser Temperature Rise</u>	<u>Pumps Design Capacity (gpm each pump)</u>
1-4	15 °F	49,300
5,6	18 F	80,250
7		180,000

6. The Environmental Protection Agency (EPA) and the Board have classified this discharger as a major discharger.
7. Concrete and plastic lined evaporation ponds are maintained for the treatment and storage of boiler chemical cleaning wastes, fireside, air preheater and stack washwaters, and demineralization waste. These ponds are regulated under separate Board Order No. 94-166.

8. The discharge of boiler chemical cleaning wastes from the metal cleaning waste pond complies with effluent guidelines promulgated in 40 CFR 423. In addition, the effluent contains constituents which do not have promulgated effluent guidelines. Monitoring of these additional constituents is necessary to determine if the discharge complies with Basin Plan guidelines for heavy metals.
9. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay (Basin Plan) on June 21, 1995. The Basin Plan identifies beneficial uses and water quality objectives for surface and ground waters in the region, as well as discharge prohibitions intended to protect beneficial uses.
10. The Board adopted guidelines for conducting the effluent toxicity characterization component of the Effluent Toxicity Control Program on August 19, 1987, and the State Board approved it on April 21, 1988. The effluent toxicity characterization program determines the magnitude and variability of toxicity in effluents. This program consists of two major components including a species sensitivity screening study and an effluent toxicity variability study.
11. The discharger has conducted the sensitivity screening study and has started the effluent toxicity variability study. An effluent toxicity study was conducted during 1991. The study consisted of tests on three organisms: a fish (fathead minnow), an invertebrate (several marine species) and an alga (*Selenastrum capricornutum*). Tests were performed according to EPA approved procedures on influent samples, Discharge 001 and 002 effluent samples and ambient samples. The results showed that the discharges were not toxic to the receiving water environment.
12. The beneficial uses of Suisun Bay, and contiguous waters are:
 - a. Industrial Service Supply
 - b. Navigation
 - c. Water Contact Recreation
 - d. Non-Contact Water Recreation
 - e. Commercial and Sports Fishing
 - f. Wildlife Habitat
 - g. Preservation of Rare and Endangered Species
 - h. Fish Migration
 - i. Fish Spawning
 - j. Estuarine Habitat
 - k. Municipal and Domestic Supply
13. Effluent limitations and toxic and pretreatment effluent standards, established pursuant to Sections 301, 302, 303(d), 304, 307, and 316 of the Clean Water Act (CWA) and amendments thereto, are applicable to the discharge.

14. Effluent limitation guidelines for the Steam Electric Power Generating Point Source Category have been established in 40 CFR 423. Effluent limitations contained in this Order are based on these guidelines, the Basin Plan, other State plans and policies and best professional judgment. Effluent limitations based on Best Practicable Control Technology (BPT) are equivalent to Best Conventional Pollutant Control Technology (BCT) for this discharger.
15. The action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the California Water Code
16. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
17. The Board, in a public hearing, heard and considered all comments pertaining to the discharge.
18. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA and amendments thereto, and shall take effect ten days from the date of hearing, provided EPA has no objections.

Findings Related to Thermal Effluent Limitations

19. Section 316(a) of the Clean Water Act (CWA) requires compliance with State water quality standards for the discharge of thermal effluent. The State Water Resources Control Board (State Board), on September 18, 1975, amended the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). This plan contains water quality objectives for the San Francisco Bay Estuary and requires existing discharges to define the effect of the discharge on beneficial uses and determine the design and operating changes necessary to achieve compliance with the provisions of this plan.
20. The Board may, in accordance with Section 316(a) of the CWA and subsequent federal regulations, including 40 CFR 122, grant an exception to specific water quality objectives in the Thermal Plan. Prior to becoming effective, such exceptions and alternative less stringent requirements must be approved by the State Board. Less stringent requirements shall provide adequate protection to beneficial uses, including the protection and propagation of a balanced indigenous community of fish, shell fish, and wildlife in and on the body of water into which the discharge is made.

21. The discharger requested an exception to the Thermal Plan and submitted reports in 1976, 1977 and 1992 intended to comply with Section 316(a) of the CWA. Organisms are exposed to thermal effects when pumped through the power plant cooling water system (pumped entrainment) and when traveling through the discharge plume (plume entrainment). Plume entrainment was evaluated in the 316(a) studies while pumped entrainment was evaluated in the 316(b) studies.
22. Based on Section 316(a) and (b) study reports submitted by the discharger, the Board determined that selected effluent limitations in the Thermal Plan were more stringent than necessary to assure the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is made. Therefore, the Board granted an exception under Section 316(a) of the CWA from the following effluent limitations in the Thermal Plan:
 - A. No discharge shall cause a surface water temperature rise greater than 4 °F (2.2 °C) above the natural temperature of the receiving water at any time or place.
 - C. The maximum discharge temperature shall not exceed the natural receiving water temperature by more than 20 °F (11 °C).
 - D. The maximum temperature of thermal waste discharges shall not exceed 86 °F (30 °C).
23. The Board, the California Department of Fish and Game (CDFG) and the National Marine Fisheries Service (NMFS) determined that additional studies were necessary to assess the effects of the heated water discharge on striped bass and other species found in the vicinity of the power plant discharges. The discharger conducted a comprehensive thermal effects study and submitted a final report on December 15, 1992. The results of the study showed that the discharge had no adverse impact on any of the anadromous fish or other aquatic species inhabiting the area and that beneficial uses were protected. CDFG and the NMFS concurred with these conclusions in letters sent to the Executive Officer.

Findings Related to Best Technology Available (BTA) for Intake Systems

24. Section 316(b) of the Clean Water Act (CWA) requires that the location, design, construction, and capacity of cooling water intake structures reflect the BTA for minimizing adverse environmental impact.
25. The cooling water system intakes are in the nursery area for striped bass, which has been the principal organism of concern. However, recent listings of Delta smelt and winter-run chinook salmon under the state and federal Endangered Species Acts (ESA) have focused attention on these species. Young striped bass and other fish and invertebrates are entrained in the cooling system and are subjected to mechanical and thermal stresses.

Most of the striped bass losses occur in approximately a 60-day period between May and mid-July called the entrainment period. Delta smelt may be present at locations near the plant earlier in the season, but data are not available to determine the extent of entrainment of this species during these periods. Winter-run chinook salmon are not expected to be entrained.

26. In June 1986, the Board adopted Order No. 86-47. In this Order, the Board agreed to the Discharger's proposed means of meeting the BTA requirements for intake structures. As described in that Order, the discharger implemented a Resources Management Program, (RMP), improved intake structures, and stocked hatchery bass in the Delta. BTA, for Order No. 90-053 continued to include the maintenance of intake structures, Resources Management Program and fish replacement program. The present Order continues to define BTA as maintaining intake structures and the RMP.

The fish replacement and fish monitoring requirements have been removed from the NPDES Permit because of ESA restrictions. Because of the potential to take Delta smelt and winter-run chinook salmon, the Discharger is applying for incidental take permits from the U.S. Fish and Wildlife Service (USFWS) for Delta smelt, NMFS for winter-run chinook salmon and for both species from the CDFG. The incidental take permits will be administered by these agencies under the federal and state ESA and will not be included in the present Order.

27. On June 23, 1995, PG&E and California Department of Fish and Game reached an agreement regarding the monitoring and mitigation of striped bass in the Sacramento-San Joaquin estuary. The agreement provides for the monitoring and mitigation of striped bass from 1995 through 2000.
28. The discharger conducted a re-evaluation of intake screen technology in consultation with the CDFG, the USFWS and the NMFS. The study showed that there have been no technological improvements that could be applied to the cooling water system that would achieve substantial reductions in fish losses beyond those already achieved by the present BTA program. A compliance report summarizing the results of the study was submitted to the Board on January 1, 1992.

IT IS HEREBY ORDERED that Pacific Gas and Electric Company, Pittsburg Power Plant, in order to meet the provisions contained in Division 7 of the California Water Code and Regulations adopted thereunder and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions:

1. Discharge of treated wastewater at a location or in a manner different from that described in Finding No. 2 & 3 is prohibited.

2. Discharge of wastes other than stormwater, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.

B. Effluent Limitations:

1. Discharge 001 shall not contain constituents in excess of the following limits:

- a. Chlorine residual 0.00 mg/l instantaneous maximum
- b. pH 6.5 - 8.5
- c. The discharge shall meet the following limits of toxicity:

The survival of three spine stickleback and rainbow trout in a 96-hour static renewal bioassay of the effluent shall be a 11-sample medium value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limitations.

90th percentile: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitations.

- d. Thermal Discharge Limitation

The maximum temperature of the discharge at the flood tide shall not exceed the natural receiving water temperature by more than 28 °F (14.5 °C). The natural receiving water temperature shall be measured at the intake structure on high flood tides.

- e. The discharge of polychlorinated biphenyl compounds is prohibited.

2. Discharge 001B, 001C, 001D, 001E, and 001F shall not contain constituents in excess of the following limits

<u>Constituents</u>	<u>Unit</u>	<u>30-Day Average</u>	<u>Maximum Daily</u>
Total Suspended Solids	mg/l	30.0	100.0
Oil and Grease	mg/l	15.0	20.0

3. Discharge 001H, for cooling tower blowdown, shall not contain constituents in excess of the following limits:

<u>Constituents</u>	<u>Unit</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
a. The 126 priority pollutants added for cooling tower maintenance except:	ug/l	No detectable amount	No detectable amount
b. Chromium, total	mg/l	0.2	0.2
c. Zinc, total	mg/l	1.0	1.0
d. Chlorine residual	ug/l		0.0 Instantaneous Maximum Free Available Chlorine
e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.			

4. Discharge 001I, metal cleaning waste pond effluent, shall not contain constituents in excess of the following:

<u>Constituents</u>	<u>Unit</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
a. Total Suspended Solids	mg/l	30.0	100.0
b. Oil & Grease	mg/l	15.0	20.0
c. Copper, total	mg/l	1.0	1.0
d. Iron, Total	mg/l	1.0	1.0
e. This stream can only be discharged when the flow in Stream E-001 is greater than 3 MGD.			

5. Discharge 001G, 002, 003, 004, 005, 006, 007, 008, and 009 shall not exceed the following limits:

<u>Constituents</u>	<u>Unit</u>	<u>30-day Average</u>	<u>Maximum Daily</u>
Oil & Grease	mg/l	10	20

6. The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of the low volume waste source times the allowable concentrations as set forth in Effluent Limitation B.2, B.3a-c, B.4 and B.5. The quantity shall be calculate as follows:

(Mass Emission Limit in kg/day) = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78 (conversion factor).

C. Receiving Water Limitations:

1. The discharge of waste shall not cause the following condition to exist in waters of the State at any place.
 - a. Floating, suspended or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of turbidity or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving water or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:

- a. Dissolved oxygen
5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

b. pH

Variation from natural ambient pH
by more than 0.5 pH units.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are approved pursuant to Section 303 of the Federal Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.
4. The discharge (001) shall not create a zone, defined by water temperatures of more than 1 °F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point. If the discharge is found to be in violation of the cross-sectional area at some future date, the Discharger shall be given sufficient time to file an exemption request to this limitation.
5. The discharge (001) shall not cause more than 125 acres of surface water to rise to a temperature greater than 4 °F (2 °C) above the natural temperature of the receiving water.

D. Provisions:

1. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.
2. The discharger shall comply with the attached "Standard Provisions and Reporting Requirements" (NPDES), dated August 1993, which are a part of this Order.
3. The discharger shall comply with the attached Monitoring and Reporting Program.
4. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 90-053 adopted on April 18, 1990. Order No. 90-053 is hereby rescinded.
5. This Order expires on November 15, 2000 and the Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

6. The discharger shall comply with the limitations, prohibitions, and other provisions of this order immediately upon its adoption by the Board.
7. The discharger shall review and update by November 1 each year its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to section 13387 of the California Water code.
8. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to EPA regulations (40 CFR 122.41k)
9. Pursuant to EPA regulations [40 CFR 122.42(a)], the discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) A discharge of toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits included in 40 CFR 122.42(a).
10. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall take effect at the end of 10 days from date of adoption provided the Regional Administrator Environmental Protection Agency has no objections.
11. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
12. The discharger shall minimize the duration, frequency, and concentration of chlorine application as a cleaning agent for the condensers.
13. The Board is developing a region-wide surface water monitoring program to determine compliance with water quality objectives in San Francisco Bay and its tributaries. The attached self-monitoring program may be reopened during the life of this permit to require the discharger to participate in this regional monitoring program.

Provisions Related to BTA

14. During the entrainment period, the discharger shall implement the following Resources Management Program, which is designed to minimize adverse environmental impacts:
 - a. The Discharger shall maximize the commitment of, dispatching of, and power production from Pittsburg Unit 7, as required to meet system demand, in place of and before the dispatching and power production above minimum load at any other unit at Pittsburg or Contra Costa Power Plants, except under the following conditions:
 - 1) Whenever Pittsburg Unit 7 is committed, Pittsburg Unit 5 or 6 may operate at minimum load for the purpose of providing steam necessary to start or restart Pittsburg Unit 7.
 - 2) The Discharger may remove Pittsburg Unit 7 from service for emergency or unscheduled maintenance, for personnel or equipment safety, or for the reliability of the system.
 - 3) The Discharger may have Pittsburg Unit 7 at less than full available load when other committed units are dispatched above minimum load if necessary to meet system stability, equipment or personnel safety, and to respond to system transient conditions.
 - 4) When generation from Pittsburg Unit 7 is not needed, the Discharger may have one unit in operation at Pittsburg and/or Contra Costa, without dispatching Pittsburg Unit 7, if necessary to maintain system reliability according to prudent utility operating practice, including equipment and personnel safety, or to provide steam supply.
 - 5) The Discharger may operate units without restraint at either power plant if the Discharger demonstrates with the threshold monitoring program that the densities of striped bass do not exceed the threshold at that power plant.
 - b. The Discharger shall minimize the commitment and dispatch of all units at Contra Costa Power Plant to minimize cooling water flows unless commitment and dispatching of these units is necessary to meet system demand, to meet power pool commitments, and/or to maintain system reliability according to prudent utility operating practice, including equipment and personnel safety.

- c. All committed units at Pittsburg and Contra Costa power plants must be dispatched to the level at which the unit discharge temperatures equal 86°F before the discharge temperature for any similar unit is allowed to exceed 86°F unless the unit is located at a plant which has fish densities below the threshold level as demonstrated by the threshold monitoring program.
 - d. The Discharger shall schedule Pittsburg Unit 7 overhauls so that work shall not occur between 1 May and 30 July each year.
 - e. The Discharger shall minimize circulation water flows under all conditions, except during chlorination, while maintaining discharge temperatures pursuant to Provision 14.c. The Discharger shall use the variable speed pumps whenever the units operate at reduced loads, in accordance with design parameters. Reduced load is defined as less than 95% of maximum load for the existing variable speed pumps. The Discharger shall shut off circulation water for uncommitted units as soon as possible, except as required according to prudent operating practices to ensure personnel and equipment safety.
 - f. The Discharger shall recirculate house unit cooling water to suction when the house units at Contra Costa are in service without the main units.
15. Except for scheduled or emergency maintenance, the Discharger shall use the existing fish pump system whenever circulating water pumps are being used at Contra Costa Units 1-5.
16. The entrainment period shall commence either May 1 or such later date that the Discharger demonstrates by a Threshold Monitoring Program or other program as approved by Fish and Game that the density of striped bass either entrained or located in the river or at the intake structure, normalized to 150 mm equivalents, exceeds 0.0005 per cubic meter of cooling water (for entrainment sampling) for three consecutive sampling days at either power plant, or as defined by the agreement with the CDFG

The entrainment period shall terminate no earlier than two weeks after it starts. The entrainment period shall end when the density of striped bass normalized to 150 mm is less than 0.0005 per cubic meter of cooling water (for entrainment sampling) in any three consecutive monitoring samples at both Pittsburg and Contra Costa Power Plants, or the day when the striped bass 38 mm index is set, as predicted by CDFG whichever is earlier.

If the entrainment period is terminated for any reason described above, the Threshold Monitoring Program must be resumed and continued at least three times per week at both the Pittsburg and Contra Costa Power Plants either until three days before the date CDFG predicts that the 38 mm index will be set, or as defined in the Agreement

with CDFG. In the latter event, the entrainment period will start again, and its termination shall be determined according to the provisions of the previous paragraph.

If the CDFG does not conduct surveys to determine the date when the 38 mm index is set, it will be assumed to be set on July 15 for purposes of implementing this section.

The Discharger shall notify the Board within three days of either beginning or ending the entrainment period between may 1 and July 30 of each year.

17. The Discharger shall submit a technical report to the Board on January 31 each year, which shall include an evaluation of the previous period's BTA program performance.
18. The Discharger shall rotate and clean intake screen assemblies for all screen assemblies in operation at a frequency of not less than once every four hours for the purpose of maintaining intake water velocities as close as practicable to design levels.
19. The Discharger shall take appropriate measures as necessary to maintain bar rack velocities as close as practicable to design levels. Appropriate measures include routinely rotating and cleaning screen assemblies every four hours and may include dredging sand and silt to eliminate buildup in front of the intake structures.

I, Loretta K. Barasamian, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of any Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 15, 1995.



Loretta K. Barsamian
Executive Officer

Attachment:

- A. Location/Site Maps
- B. Process Schematic
- C. Contingency Plan - Regional Water Board Resolution No. 74-10
- D. Self Monitoring Program
- E. Regional Water Board NPDES Standard Provisions and Reporting Requirements - August, 1993.

Attachment A

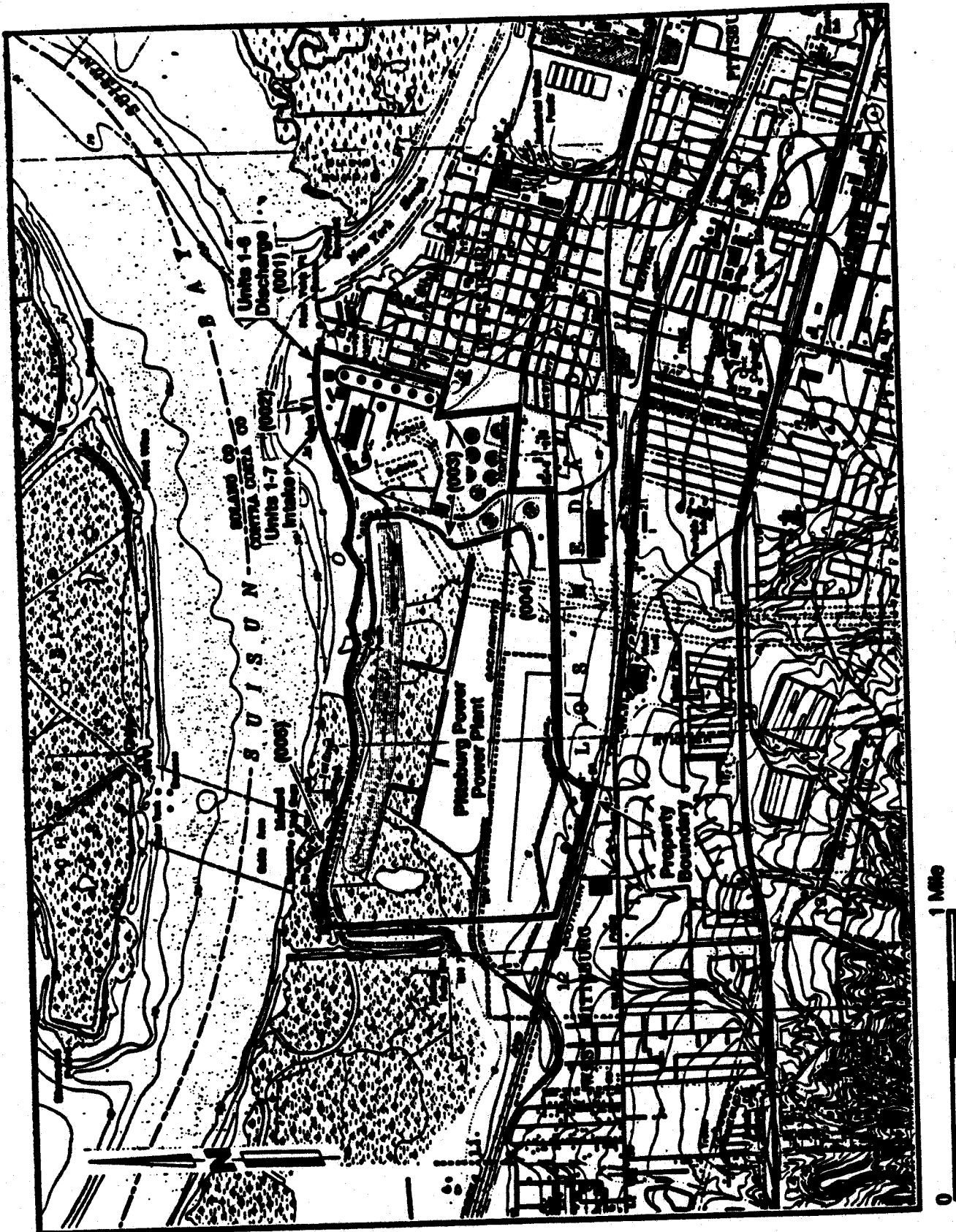


Figure 1. Pittsburgh Power Plant site and vicinity.

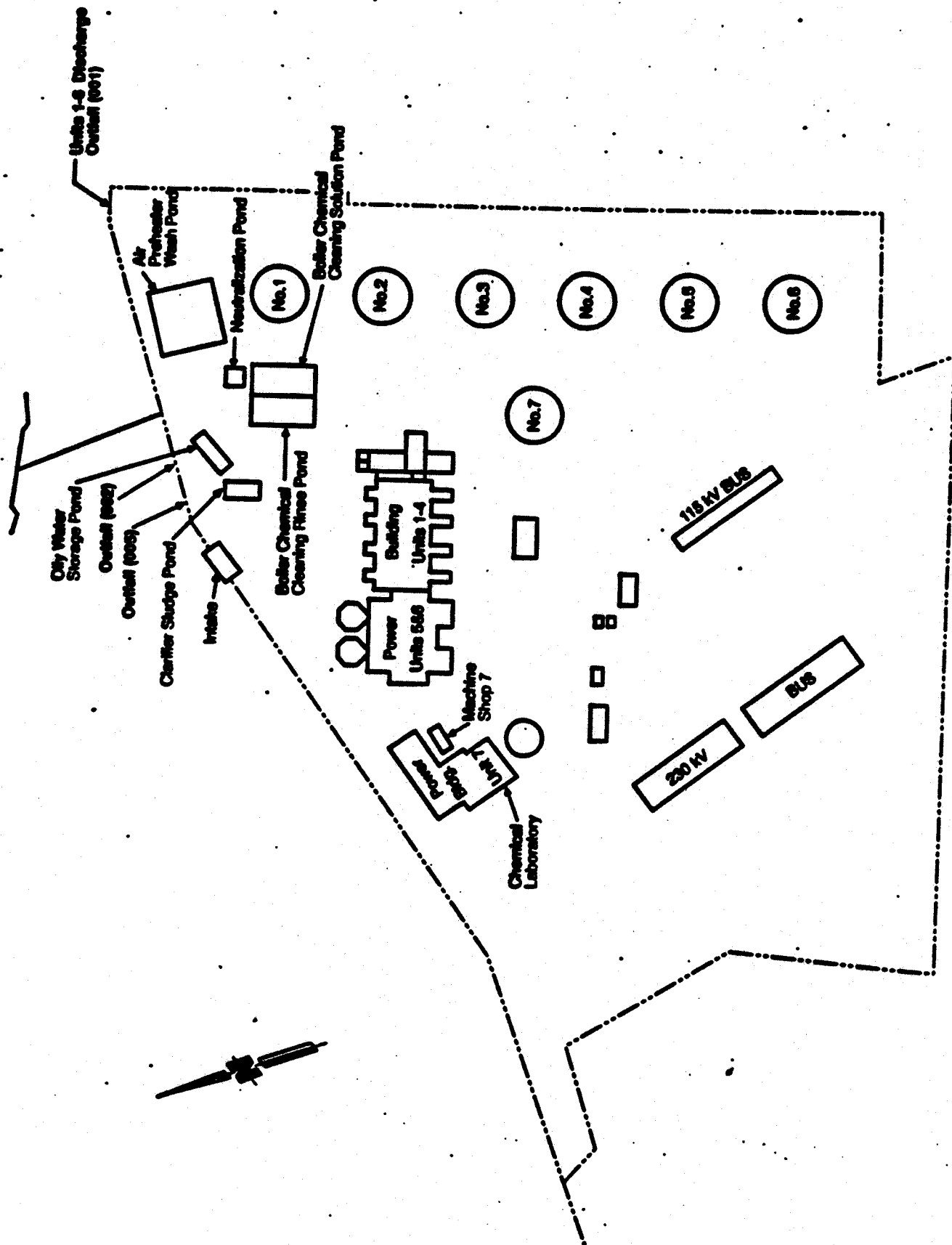
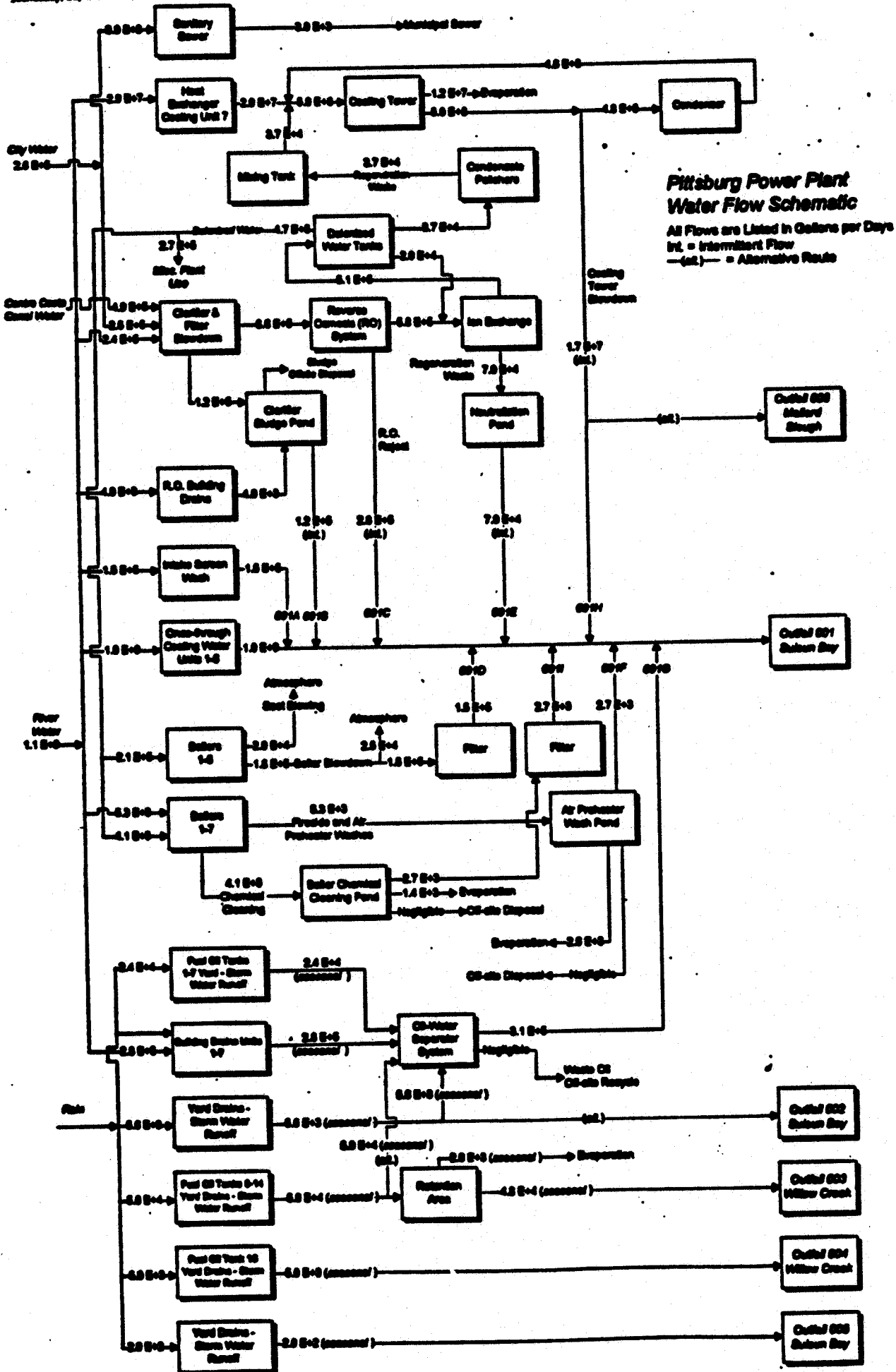


Figure 2. Pittsburgh Power Plant.

Attachment B

January, September 14, 1984



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SELF MONITORING PROGRAM

FOR

**PACIFIC GAS AND ELECTRIC COMPANY
PITTSBURG POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY**

**SELF - MONITORING AND REPORTING PROGRAM
NO. 95 - 225**

NPDES NO. CA0004880

CONSISTS OF

PART A, Dated AUGUST 1993

AND PART B

PART B

DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING ANALYSIS AND OBSERVATIONS

I. Sampling Station Location/Description

A. Influent

<u>Station</u>	<u>Description</u>
I-001	At any point in the influent stream prior to the condensers and upstream of any treatment where representative samples of the influent to Unit 5 and 6 can be obtained.

B. Effluent

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall for Unit 1-6 from which once-through cooling water is discharged, between the point of discharge to Suisun Bay and the point at which all pollutants tributary to that outfall are present.
E-001B through E-001G	At any point in the pipe from which low volume waste is discharged prior to combination with once-through cooling water or any other stream.
E-001H	At a point in the cooling water blowdown stream prior to mixing with once-through cooling water or any other stream.
E-001I	At a point where metal cleaning waste pond effluent is discharged, prior to combination with once-through cooling water or any other stream.
E-002	At a point in the outfall of combined yard drains prior to discharge to Suisun Bay
E-003	At a point in the outfall of combined yard drains from fuel oil tanks 8-14 prior to discharge to Willow Creek.
E-004	At a point in the outfall from yard drains from Fuel Oil Tank 16 prior to discharge to Suisun Bay.
E-005	At a point in the outfall from yard drains from the vicinity of the cooling water intake prior to discharge to Suisun Bay.

DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING ANALYSIS AND OBSERVATIONS (continued)

I. Sampling Station Location/Description

B. Effluent

<u>Station</u>	<u>Description</u>
E-006	At a point north of Unit 7 cooling canal prior to discharge to Suisun Bay.
E-007	At a point in the outfall from yard drains from the area southwest of the warehouse prior to discharge to Suisun Bay.
E-008	At a point in the outfall from yard drains from the area west of the warehouse prior to discharge to Suisun Bay.
E-009	At a point in the outfall from the yard area west of switchyard #6 prior to discharge to Willow Creek.

II. Schedule of Sampling and Analysis

INFLUENT MONITORING

The following shall constitute the influent monitoring program:

<u>Station</u>	<u>Constituent</u>	<u>Units</u>	<u>Detection Limit</u>	<u>Type of Sample</u>	<u>Frequency of Analysis</u>
I-001	Temperature	°F	---	----	Continuous
	TSS	mg/l	1.0	24 Hour Composite	Monthly
		lbs/day			
	pH	pH unit	---	24 Hour composite	Monthly
	Arsenic	ug/l	1.0	24 Hour Composite	Monthly
	Cadmium	ug/l	0.5	24 Hour Composite	Monthly
	Chromium	ug/l	5.0	24 Hour Composite	Monthly
	Copper	ug/l	1.0	24 Hour Composite	Monthly
	Silver	ug/l	1.0	24 Hour Composite	Monthly
	Lead	ug/l	1.0	24 Hour Composite	Monthly
	Mercury	ug/l	0.1	24 Hour Composite	Monthly
	Nickel	ug/l	5.0	24 Hour Composite	Monthly
	Zinc	ug/l	5.0	24 Hour Composite	Monthly

EFFLUENT MONITORING

The following shall constitute the effluent monitoring program:

<u>Station</u>	<u>Constituent</u>	<u>Unit</u>	<u>Detection Limit</u>	<u>Type of Sample</u>	<u>Frequency of Sampling</u>
E-001	Temperature	°F	---	-----	Continuous
	Flow	MGD	---	from pump operating data	Daily
	pH	pH units	---	Grab	Monthly
	Chlorine	mg/l	0.0	Grab	Daily when treating
	96 Hour fish bioassay % survival	---	---	24 Hour Composite	Monthly
	Arsenic	ug/l	1.0	24 Hour Composite	Monthly
	Cadmium	ug/l	0.5	24 Hour Composite	Monthly
	Chromium	ug/l	5.0	24 Hour Composite	Monthly
	Copper	ug/l	1.0	24 Hour Composite	Monthly
	Silver	ug/l	1.0	24 Hour Composite	Monthly
	Lead	ug/l	1.0	24 Hour Composite	Monthly
	Mercury	ug/l	0.1	24 Hour Composite	Monthly
	Nickel	ug/l	5.0	24 Hour Composite	Monthly
	Zinc	ug/l	5.0	24 Hour Composite	Monthly
E001B-F	Flow	MGD	-----	Daily	
	TSS	mg/l	1.0	Composite*	Quarterly
	Oil and Grease	mg/l	-----	Composite*	Quarterly
	Arsenic	ug/l	1.0	Composite*	Monthly
	Cadmium	ug/l	0.5	Composite*	Monthly
	Chromium	ug/l	5.0	Composite*	Monthly
	Copper	ug/l	1.0	Composite*	Monthly
	Silver	ug/l	1.0	Composite*	Monthly
	Lead	ug/l	1.0	Composite*	Monthly
	Mercury	ug/l	0.1	Composite*	Monthly
	Nickel	ug/l	5.0	Composite*	Monthly
	Zinc	ug/l	5.0	Composite*	Monthly
E-001H	Flow	MGD	-----	-----	Daily
	Chromium	ug/l	5.0	Composite*	Monthly,
					when adding maintenance chemicals unless certified those chemical as not containing priority pollutants.
	Zinc	ug/l	5.0	Composite*	Same as above
	Priority Pollutants	ug/l	1.0	Composite*	Same as above

E-001I	-TSS	mg/l	-----	Composite*	Daily during
	- Oil and Grease	mg/l	-----	Composite*	discharge;
	- Copper (total)	ug/l	1.0	Composite*	Same as above
	- Iron (total)	mg/l	0.5	Composite*	Same as above
	- Arsenic	ug/l	1.0	Composite*	Same as above
	- Cadmium	ug/l	0.5	Composite*	Same as above
	- Chromium	ug/l	5.0	Composite*	Same as above
	- Copper	ug/l	1.0	Composite*	Same as above
	- Silver	ug/l	1.0	Composite*	Same as above
	- Lead	ug/l	1.0	Composite*	Same as above
	- Mercury	ug/l	0.1	Composite*	Same as above
	- Nickel	ug/l	5.0	Composite*	Same as above
	- Zinc	ug/l	5.0	Composite*	Same as above

E-001-G,					
E002-009	Oil and Grease	mg/l	-----	Grab	Monthly, when discharging

*Composite sample shall consist of a mixture of one grab sample taken every hour during discharge.

AMBIENT (RIVER) WATER MONITORING

Ambient river conditions will be determined at the intake structure (I-001):

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Temperature during max flood tide	°F	Grab	Twice weekly

BEST TECHNOLOGY AVAILABLE MONITORING

A. The following data shall be collected and shall be available to the Regional Board upon the request of the Executive Officer:

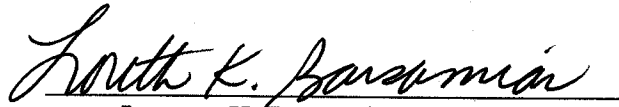
1. Each unit's hourly cooling water flow for each day of the entrainment period.
2. Hourly temperature measurements in the discharges of Pittsburg Units 1-4, Pittsburg Unit 5, Pittsburg Unit 6, Contra Costa Units 1-5, Contra Costa Unit 6, and Contra Costa Unit 7 for each day of the entrainment period.
3. Hourly records of gross electrical generation (MW) for each unit at the Contra Costa and Pittsburg Power Plants (excluding house units) during the previous entrainment period.

B. On **January 31** of each year, the Discharger shall submit a post entrainment period report which shall include, but not necessarily limited to the following:

1. A tabulation of outages and curtailments for Pittsburg Unit 7 by occurrence with a brief description of the cause of each occurrence during the previous entrainment period.
2. A comparison of hourly electrical generation by unit, at Contra Costa Units 6-7 and Pittsburg Units 1-6 with the generation at Pittsburg Unit 7 (expressed as a percentage of available capacity) during the previous entrainment period as it pertains to compliance with provisions of the resource management program.
3. A summary of information used to determine the start and end date of the entrainment period, if threshold monitoring program is implemented.
4. A summary of monthly capacity factors and generation by unit for the Pittsburg and Contra Costa power plants and monthly cooling water flow by unit group as in A.2 for the preceding entrainment period.
5. An annual BTA compliance summary including:
 - a. Compliance with the Resource Management Program.
 - b. Status of intake system improvements and modifications, if any.
 - c. A summary of intake screen operation (rotation frequency) at Contra Costa and Pittsburg Power Plants, and fish pump operation at the Contra Costa Units 1-5 intake during the previous calendar year.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with Waste Discharge Requirements established in this Order.
2. Is effective on November 15, 1995
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or requests from the Discharger, and revisions will be ordered by the Executive Officer.


Loretta K. Barsamian
Executive Officer